# NEW GENESEE FARMER,

## AND GARDENER'S JOURNAL.

VOL. V. ROCHESTER, MONROE CO., N. Y.—JUNE, 1844. NO. 6.

**PUBLISHED MONTHLY.**

**B. F. SMITH & CO., PROPRIETORS & PUBLISHERS,**
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M. B. BATEHAM, ROCHESTER,
DANIEL LEE, BUFFALO,
T. C. PETERS, DARIEN, } EDITORS.

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### Letter from "D. L."

PEAR TREES ON QUINCE STOCKS—FRUIT FOR EXPORTATION—CANAL FREIGHT—SUBSOIL PLOWING.

In a recent visit to Long Island, I was particularly struck by the ease with which pears can be grown on quince roots and stems, by grafting and budding. I am aware that the practice of "dwarfing," as it is termed, of pear trees into bushes not unlike the quince, is no new discovery. Nevertheless, I think the practice is not generally known, or at least adopted, in this section.

A pear tree is a long time in coming to maturity in its natural state. I saw thousands of young pears growing from scions grafted on the quince no longer ago than last season. They are excellent bearers, but seldom live more than five or six years. The object of this cross is, to obtain fruit speedily, before pear trees can be brought to maturity in the ordinary way.

The farmers along the Hudson river, and on Long Island, are beginning to pay great attention to the cultivation of fine apples and other fruit, for exportation.

May not the farmers of Western New York find this subject worthy of investigation? It strikes me, that a little care and expense will enable them to grow an indefinite amount of choice fruit, which would probably pay as large a profit as any other agricultural product. If I mistake not, the consumption of fruit in all civilized countries is on the increase, and especially in the United States. Certain I am, that if we ate less meat, and more ripe, nutritious fruits, it would be alike promotive of health and longevity.

Trees designed to bear large fair apples or pears, should be pretty well trimmed; that is, they should not be allowed to form too much *lignin*, or woody fiber. A dense shade is also injurious to the proper ripening of fruit.

My impression is, that sweet apples contain more of the elements of fat and muscle than sour; although experience in feeding swine exclusively on each variety of fruit has not, so far as I am informed, fully confirmed this theory.

The wheat crop in this vicinity looks well. We have had nearly a week of wet cold weather, and just now there is "a smart chance" for a biting frost. A large portion of western wheat is going into Canada, by the way of the Welland Canal, partly for consumption in the province, or for manufacture and export, and partly to go to the Hudson river *via* the Oswego canal. It is said, there is a combination of forwarders in the transportation business on the Erie Canal, by whom the expense of freight has been considerably increased over that of last season. Hence, less produce comes this way than would under more favorable auspices. As it is, our receipts largely exceed all precedent.

I trust a number of your enterprising farmers will try the subsoil plow, which I see advertised in the Farmer. Plows of that character have now been in use many years in Great Britain, and on the continent of Europe, and all accounts concur in speaking in high terms of the practical value of subsoil plowing. Liming the subsoil, when turned up to the light and heat of the sun, is practiced with signal advantage. A deep, mellow soil, easy for roots, the atmosphere, and moisture to penetrate, will produce far better crops than the same constituents in a hard, compact form. Under such circumstances, plants can derive a much larger portion of their necessary food from atmospheric elements.

*Buffalo, May* 22, 1844. D. L.

### Profitable Apple Trees.

Mr. A. B. Rapalje, of Farmington, Ontario county, is noted for the excellence of his winter apples. He is now (June) bringing Russets to market that sell for $2 50 per barrel. As an evidence of the profitableness of cultivating good fruit, he informed us that one tree of this kind in his orchard, had produced in four successive years, at the following rate: 7, 8, 9, 9 1-2 bbls., or 33 1-2 barrels in four years. He has many others nearly as productive. The trees are about 20 years old; the natural tops were cut off and grafted ten years ago. They stand two rods apart, or forty on an acre.

### Mr. Cook's Mode of Raising Wheat—Inquiry.

William Garbutt of Wheatland, wishes to be informed how many years Mr. Cook has raised wheat alternately with clover on the same piece of ground, as described in our May number; and what has been the amount of his crops. He says, "Several in this section have followed the practice for years, and I think to the injury of their wheat crops. It produces plenty of straw, but not bountiful crops of grain. At least such has been the result in this region after a few years. Clover and plaster or barn-yard manure may be plentifully applied, so that the ground will produce heavy crops of straw, every other year, or even every year; but it requires *time* to replenish the soil with the food for the grain—which has to be supplied from the atmosphere, and the droppings and breath of animals while pasturing."

We hope Mr. Cook will favor us with an answer to the inquiry of Mr. Garbutt in time for our next—and at the same time we will inquire of our friend Lee, whether he thinks the elements necessary for producing the grain of wheat, can only be obtained by the means mentioned in the last clause of the above. B.

### Agriculture in Schools.

At the State Convention of Superintendents of Public Schools recently held in this city, resolutions were unanimously adopted, recommending the introduction of the study of agriculture as a branch of instruction for the older classes of pupils in Common Schools; also advising teachers, as far as in their power, to impart agricultural instruction by means of familiar lectures, dialogues, reading, &c. It was also recommended that library committees should increase the number of works on agricultural chemistry and other departments of husbandry in the school district libraries. A committee was then appointed to consider upon the subject of agricultural text books and the best mode of teaching the principles of agriculture in schools—to report at the next Annual Convention, which will be at Syracuse in May 1845; and the managers of the State Agricultural Society are invited also to appoint a committee to confer with them on this subject. (These Resolutions and the names of the committee will be found in the District School Journal. We shall insert them next month.)

We regard this as a most important movement, and one that has been too long delayed. Several papers in New England and elsewhere, we perceive are discussing this question with a spirit that betokens good results. The public mind needs only to be awakened on this great subject to induce speedy action and the happiest consequences. We say then *agitate*, agitate.

We ought to have noticed, a month or two since, the excellent suggestion of our friend D. S. Curtiss, Editor of the "*Perry Countryman*," a warm advocate of Education and Liberty. He recommends that several copies of some agricultural papers, like the Genesee Farmer or the Cultivator, should be taken in each school and read by the older classes, each month as received. We venture to assert that in no other way, with as little trouble and expense, could as much valuable knowledge be imparted to the scholars; and nothing would so directly tend to impart a taste for the profession which is destined to be the employment of most of them in after life, and which gives support to all.

### New Articles of Culture.

Further extracts from an Essay on the Introduction of New Articles of Culture; by M. B. Bateham. Continued from the May number of the Farmer, page 42.

1. Timothy or Herd's Grass. 2. Meadow Foxtail. 3. Orchard Grass

### THE GRASSES.

[Note.—The term grasses is here used only in the popular sense, and includes those plants of the order *Gramineæ* which are not cultivated for grain.]

In no department of American agriculture is there more lack of knowledge, and such wretched practice, as in the cultivation of grasses. Individual farmers, in this country, do not possess the means or ability for conducting such a series of experiments and observations as are requisite for obtaining a full and correct knowledge of this important and extensive family of plants. Hence, this branch of our husbandry must remain defective, till suitable institutions are established for that purpose.

In a valuable article on grasses, in the New Genesee Farmer of 1840, Professor Dewey states, that "more than 1,800 species have been described by botanists. More than three hundred are ascribed to N. America; and more than two hundred are found in the State of New York." About 150 species are said to be natives of Great Britain; and about 40 kinds are, more or less, cultivated in England, for hay or pasture. In the United States, only five or six kinds are in cultivation at all, and only three or four extensively. In Western New York, thousands of farmers never sow any grass seed except Timothy, (*Phleum pratense.*) This is avowedly the most nutricious and profitable grass for hay; but it is by no means well adapted for all purposes, and to all soils. For pastures, especially, it should never be used except mixed with other kinds.

The advantages of sowing a mixture of grasses are not sufficiently understood, or appreciated, in this country. It has been found that a square yard of turf will support, at least, double the number of plants when comprising several species, that it will of only one species. The reasons for this are, first—the different species subsist on somewhat different elements of the soil; and, secondly, having different kinds of roots, some with tap roots running deep, and others fibrous and superficial, the different species derive their sustenance from different parts or strata of the soil.

Sir H. Davy and others, observed, that in the best old natural pastures, in England, there is a mixture of from 15 to 20 species of grass; and that some one or more of these have their particular season of luxuriance each month, from spring to latest autumn; or, in other words, different species of grass growing on the same piece of land, supply stock with pasturage in different months of the year. It was also observed, that the mixture was different on different kinds of soil. Hence was seen the necessity of a more definite knowledge of the character and habits of grasses, in order to establish a perfect system of culture; and thus was the occasion of the celebrated Warburn experiments, under the patronage of the Duke of Bedford, conducted by G. Sinclair, the particulars of which constitute the admirable standard work on grasses, called "Hortus Gramineus Woburnensis." The experiments and observations of Mr. Sinclair were of ten years' continuance, and embraced more than one hundred species of grasses. Each kind was cul-

tivated, separately, on different soils; the time and manner of growth, and the amount and quality of produce, of each kind, carefully noted; and the proportion of nutritive matter, and other elements, ascertained by chemical analysis. These experiments form the basis of the present improved system of managing grass lands in England, and may aid us, to some extent, in this country; but owing to the difference of soil, climate, and other circumstances, similar experiments will have to be made here. There is no need of waiting for those experiments, however, for enough is already known, of some species, to leave no room for doubt that their introduction and general culture, in this country, would be the means of greatly improving our agriculture.

*Orchard Grass, (Dactylis glomerata.)*—This grass has been cultivated for many years, in some parts of this country; but is very little known, and cannot be said to be fairly introduced in Western New York. It is not quite equal to timothy, in the nutritive quality of its hay; but it excels that species in other important qualities, especially for pasture. It starts earlier and more rapidly in the spring, continues its growth more uniformly throughout the summer, and affords later pasturage in the fall. All kinds of stock are very fond of it, and it is said that sheep will pass over every other kind to feed on it. The late Col. Powel, of Pennsylvania, after cultivating this grass for ten years, declared it produced more pasturage than any other grass he had seen in America. Sinclair ranks it among the very first, especially for sheep; and its cultivation in England has greatly increased of late years, it having, with timothy, in a measure superseded rye grass, for sowing with clover.

In the Transactions of the New York State Agricultural Society, for 1841, a writer from Madison Co. states, that orchard grass is cultivated by some farmers in that county. and produces excellent hay, and abundance of pasturage; starting early in spring, and again after being mown. It also endures drought better, and yields feed later, than any other species; is never killed by the winter, and its roots are easily subdued.

*Perennial Rye Grass, (Lolium perenne.)*—This grass deserves to be mentioned more on account of its popularity in Great Britain, than for any benefit that is likely to result from its introduction into this country. Professor Low says, this "is one of the most important of the gramineus herbage plants, and is more generally cultivated in Europe than any other." It is valued for its large produce of hay, and also for pasturage, and is the kind heretofore commonly sown with clover in England and Scotland. It has been frequently tried in this State, by European settlers and others, but not with very good results. The winters are too cold, and the summers too hot and dry for it.

*The Italian Rye Grass* appears to be an improved variety of the preceding, said to be more productive. In Buel's Farmer's Companion, it is stated, "We have twice tried the Italian rye grass, but the result has induced us to abandon it. This variety give the largest produce; and were it hardy enough to withstand our winters, it would, no doubt, become a valuable acquisition to our husbandry."

*Meadow Foxtail Grass, (Alopecurous pratensis.)*—This is one of the most highly esteemed of the British grasses, and, if introduced, might prove of great advantage for mixing with other kinds, in laying down permanent meadows, both for hay and pasture. Professor Dewey says, "I have not known it cultivated, but small patches of it are found frequently in the meadows of New England, and in this State." Loudon says, "This grass possesses the three great requisites of quantity, quality, and earliness, in a degree superior to any other. It is often fit for the sythe by the middle of May [in England.] It flowers twice a year, and gives more bulk and weight of hay than any other grass." Dickson says, "Of all the English grasses, this appears to be the best adapted for cutting twice." Lawson says, "This is one of the earliest and best of pasture grasses, but not so well adapted for hay, as it produces but few stalks, which are but sparingly furnished with leaves; its root leaves are very broad, long, soft, slender, and grow rapidly when cut or eaten down by live stock; it grows, naturally, on rather superior soils of medium texture, and constitutes the greater portion of many of the richer natural pastures in Britain. It requires two or three years, after sowing, to arrive at full maturity."

*Meadow Fescue Grass, (Festuca pratensis,)* is another British species, eminently deserving of introduction, for permanent grass lands; nearly or quite equal to the preceding for earliness, productiveness, and quality. It is occasionally found in old fields and meadows in this State. Low says, "this is justly ranked among the superior grasses. Although large, it is not a coarse plant, and does not, like some of the other large kinds, form tufts in growing." Loudon—"It is highly grateful to every description of stock; and is more in demand for laying down meadows than any other species, except the rye grass."

*Tall Fescue, (Festuca elatior.)*—This is claimed as an American species, but does not appear to be indigenous to this State, although frequently found in old meadows and cultivated fields. It is of much larger growth than the preceding; yields an abundant crop, and although of coarse appearance, it is relished by cattle generally. It seems to delight in moist, rich soils, along river banks, &c. The writer is not aware of any experiments having been made with its cultivation in this country; but it seems well adapted for moist rich lands, and is certainly deserving of trial. According to Sinclair's experiments, this species stands the highest of all in the quantity of nutritive matter, when cut at the time of flowering; and our timothy grass when cut at the time the seed is ripe. Several other species of *Festuca*, both British and American, are deserving of cultivation, mixed with other species.

*Tall Oats Grass, (Avena elatior.)*—This grass has been highly recommended for introduction, and promises to be of much value in this country. It is of rapid growth, and very productive of hay, though, according to Sinclair, the hay is not very nutritive. Buel says, "It possesses the advantage of early, late, and quick growth, and is well calculated for a pasture grass. We have measured it in June, when in blossom, (at which time it should be cut for hay,) and found the seed stems four and a half feet high." Lawson observes, "This grass is cultivated to a greater extent in France than any other kind whatever. It has not been fairly tried in British husbandry, but, judging from the experiments that have been made, it seems well deserving of more extended cultivation." Colman, in his Fourth Report, says, that this grass is cultivated and much esteemed in Middlesex, Co., Massachusetts.

*Sweet-scented Vernal Grass, (Anthoxanthum odoratum.)*—This is a British grass, of small growth, but valuable for pastures, especially for sheep, on account of its very early growth. It is esteemed for parks and lawns, in England, on account of the fragrance of its flowers; and it is this which gives the fine fragrance to English meadows and hay fields. It is seen occasionally in old pastures in this State, and, according to Fessenden, it constitutes a large portion of the crop in some meadows in Massachusetts. He observes, "Its chief fault is, that it is too early for the other grasses, [for hay;] but it affords a second, and even a third crop, if cut early. It is this that gives the fine flavor so grateful to milch cows."—*(Complete Farmer.)*

*Blue Grass, (Poa compressa.)*—The Blue Grass of this and other eastern States, is a native species, found in old pastures, and by the road sides, especially in lands somewhat worn out. It forms a dense turf, like its sister species *P. Pratense*, or June grass; and, like it, yields but little produce, and that of such inferior quality, that cattle eat it with reluctance. It is distinguished from June grass by the peculiar bluish color of the stems and flowers. The roots are very tenacious of life, and difficult to eradicate, consequently it is deemed by farmers an unwelcome intruder.

*The Blue Grass of Kentucky*, and other southern States, has, by some botanists, been regarded as identical with that of the north, and by others as the Jnne grass, *(Poa pratense,)* but from the accounts that have been given of it in the papers, it is a much more valuable species than either of them, and, if found to be sufficiently hardy, it may be advantageously introduced into the middle and eastern States.

*Other Southern Grasses* have been frequently noticed in agricultural publications of late, and some of them are described as being highly valuable—such as Gama Grass, Bermuda Grass, Buffalo Grass, Tussack Grass, &c.; but such as have been tested are not able to bear the winters of this State, and it is not probable that the others will be found of value, except for more southern climates.

(A complete treatise on the grasses, indigenous and cultivated, would be of great value.)

## CLOVER, TREFOIL, &c.

Next in importance is the clover family; and here again we find several plants, promising great utility, that are almost, or entirely unknown in American agriculture. Some of these may be of general advantage; but a larger number are adapted to particular purposes, or peculiar soils, and to the older parts of the country, where lands are high in price, and worn or poor in quality. Two species of red clover, and one of white, are all that are commonly cultivated in this country. A few other kinds will be briefly mentioned.

*Alsike, or Hybrid Clover, (Trifolium hybridum.)*—This is a new species of clover, a few seeds of which were obtained by the writer from Mr. Lawson, at the Agricultural Museum, Edinburgh, in the fall of 1839. Mr. Lawson states, that it was introduced from Sweden, in 1834; and "from what has been seen of the *T. hybridum*, it seems to be a valuable perennial clover, and well adapted to growing in this country, [Scotland;] but hitherto seeds have not been obtained in sufficient quantity to give it a fair trial in field culture."

Some of these seeds were given to David Thomas, of Cayuga, and to William Garbutt, of Monroe, at both of which places it has grown freely, although their soils are rather too heavy. In appearance, this clover is intermediate between the red and the white. The flowers are white, with a tinge of red; the leaves resemble the white, but are somewhat larger; the stem is about as tall as the red, and more inclined to lop down, but do not seem inclined to take root and spread like white clover; the roots are more fibrous, and more perennial or durable than the red—hence it will doubtless be found a valuable acquisition for pastures, as soon as the seeds are to be had in sufficient quantity.

*Crimson or Scarlet Clover, or Trefoil, (Trifolium incarnatum.)* — This species was recommended, in the agricultural papers of this country, a few years ago, and small quantities of the seed were sold at the Rochester Seed Store, and elsewhere: but it does not appear to have been cultivated to any considerable extent. It is found to grow freely under favorable circumstances, when sown in the spring; but the writer is not aware whether any experiments were made by sowing in the fall, as practiced in Europe. It is an annual clover, and is recommended for sowing in autumn, to produce a crop of hay the succeeding summer, where land is intended for wheat. It is doubtful whether this species will prove of much value in this country, but it is deserving of experiment.

*Bokhara, or Giant Clover, (Melilotus leucanthus.)*—In 1841, an ingenious Yorkshireman contrived to produce two or three plants of the common sweet clover, of the flower gardens, 10 or 12 feet high; and on exhibiting them at an agricultural show, he was awarded a premium for a "new and gigantic species of clover," which was soon heralded in the papers both of England and this country, and quite a lucrative trade was shortly commenced in the seeds. The humbug exploded the following year, and very little has since been heard of the "Bokhara Clover." In the Cultivator for November, 1842, James Gowan, Esq., of Philadelphia, expresses an opinion that this plant may be found valuable for soiling cattle, and his determination to give it a trial, notwithstanding it is not so new and wonderful a vegetable as was once supposed.

It is a biennial plant, of a tall and rapid growth, (not properly a clover,) and not much relished by cattle, except when young.

## LUCERN, *or* FRENCH CLOVER—(*Medicago sativa.*)

No plant has been more frequently or more strongly commended to the attention of American farmers, during the past twenty years, than Lucern; yet it has never been fairly tried, except in a very few places, although it is found to be well adapted to the climate and soil of most parts of the United States, and of great productiveness and value.

The best soil for lucern is a deep sandy loam, free from wet, and having an open subsoil. Inattention to the kind of soil has been the cause of the failure of numerous experiments with this plant, in Western New York and elsewhere; and these frequent failures have tended to prevent its more general introduction. Another difficulty in the way, and a very serious one with some farmers, is, the land must be very free from weeds, or the crop kept clean by hoeing or weeding, the first year. But, after all, the main reason why this and many other valuable crops are so slowly introduced, is the strong aversion, in the minds of the farmers, to stepping out of the beaten track, or attempting the cultivation of any plant which they have not seen their father cultivate before them.

This is well illustrated by a writer in the Annapolis Republican, in speaking of a patch of Lucern on the farm of Wm. Johnson, Esq., of Somerset Co., Maryland. He says, "It consists of about three quarters of an acre; was sown in 1829, and has been cut—this makes the twelfth year. He keeps two horses and three cows; has a full supply of milk and cream, and more butter than he knows what to do with—much more than can be said of many farmers who have five hundred acres of land, without a lot of lucern. This lot has been cut once over this season; and now, before he can get half over again, the horses and cows getting more than they can devour, he will have to make hay of it, to prevent it from getting too old. It comes several weeks before clover—may be cut four or five times—strikes its root very deep, and therefore will stand dry weather, and will last, no one knows how long, for this is now a splendid crop, after being cut eleven years; and yet farmers won't sow it!—even Mr. Johnson's neighbors, with a few exceptions, and with his success staring them in the face! I told him, that the common objection urged against it was, that they cannot get it started—that the weeds and grass will smother it the first year. 'The way to manage it,' said he, 'is this: Take a rich lot of ground, on which the water does not lie winter nor summer; cultivate it previously in potatoes; sow your lucern broadcast, the 1st of May, 20 lbs. of seed to the acre, and in July cut it. You may suppose, from the looks of it the first season, that the weeds and grass would overcome it; but don't be alarmed. They die off, and the second year the lucern will survive, almost in immortal vigor.'

"Lucern possesses the remarkable characteristic of being exempt from that quality in clover, and other green meat, (as the English writers call it,) which makes them dangerous to give to horses when in active exercise. In other words, you may feed them as Mr. Johnson does his carriage horses, on lucern instead of dry fodder, or hay, and travel them on it fast or slow, without danger of touching their wind. Every one knows, that this can't be done with clover. But what signify a thousand arguments and illustrations? This, like others, will be read and thrown aside, as a thing that 'tells very well on paper,' but too troublesome to be put in practice!"

Experiments with lucern were commenced in this State, as long ago as 1793 and 1794, by Chancellor Livingston, and one or two others, who published the results of their experiments, and advised its cultivation. Judge Buel, in the Cultivator of 1837, says, "We have had considerable experience in raising lucern during the last sixteen years. Until recently, we have found it an available crop, having been enabled to feed six or seven cattle upon an acre of it during the winter months; but for two or three of the last years our efforts to cultivate it have been less successful, on account of the severity of the winters, which has destroyed many of the plants; and the vexatious intrusion of other grasses, particularly of spear-grass." The late John Lowell, of Roxbury, Mass., cultivated lucern for more than 20 years, and warmly advocated its general cultivation. In a letter to the Editor of the New England Farmer, in 1838, he says, "The lucern will give, in this State, two good crops the same season in which it is *sown*. Is there any other grass that will do this? It will endure the severest drouths, when all other grasses fail. It is the favorite grass of the horse and the cow. It will fatten them faster than any other. It will do as much for a horse as an ample supply of grass and four quarts of grain a-day, in keeping him in flesh and strength. But many persons have failed in attempts to raise it. And what then? Does it follow that it is not worthy of culture. By no means. If *one* man uniformly succeeds for fifteen years, there must be some good reason why others *do not* succeed. Let us try to seek out the causes of their ill success. It is not the climate, because it stands our severest winters unhurt, when clover *fails*. It stands our severe drouths, when clover dies.

"It is with me the richest treasure. My farm is small, it is true; but it is a grazing farm, and my produce is 20 tons of hay. Surely the experience of such a farmer, for 15 years, is worth something. I have already cut two crops this season from lucern, sown in April last; and two crops from lucern two years old, and two crops of hay from lucern three years old, at the rate of 3 tons to the acre. I expect two crops more from each. These are facts notorious to them who pass by my grounds."

Mr. Joshua Loader, in the Farmers' Cabinet for 1842, observes on this subject, "No crop can at all compare with lucern, for quantity or quality, whether as green food for soiling, or as hay, of the most nutritious and fattening qualities. It is a grand mistake to suppose that a very rich soil is necessary for its growth or well-being; it is rather otherwise, the only *sine qua non* being a very dry subsoil and light surface; upon such a soil the necessary means of support can be given by top-dressings of well composted manure, the chief regard being, that it contain no weeds. It is to be remarked, that hogs pastured on this grass require no other food, being often slaughtered, in fine condition, while feeding on that alone. The culture by drilling is not to be recommended; sow the seed thickly on a clean and well pulverized soil, either in the spring, the summer, or the autumn, without any other crop; the plants will appear in a few days, and, if they are not choked with weeds, will soon overspread the land. An early and frequent cutting, giving them a fresh start over the weeds, and a slight harrowing, after every cutting, will enable them to keep it. Truly, it is strange that such an invaluable crop is still confined to patches 'the third of an acre.'"

SAIN-FOIN, *or* SAINT FOIN—(*Onobrychis sativer.*)

This is another British herbage plant, that has frequently been recommended, and occasionally tried, in this country, but without seeming to gain much favor, or promise much advantage. In England it is extensively cultivated on dry, chalky soils, for which it seems peculiarly adapted. Sir John Sinclair observes, "that the improvement made by sain-foin is very great. Poor soils, not worth more than from 2s. 6d. to 5s. for any other purpose, will, under this crop, yield from 1½ to 2½ tons of valuable hay, worth a guinea per ton more than meadow hay equally well cured, besides a considerable quantity of after-grass. It also lasts in the ground equally productive for a number of years."

The Editor of the American Farmer (April, 1842) recommends sain-foin for cultivation on poor and worn-out lands at the South, with the application of lime and calcareous marl for dressing. It is not at all improbable, that for such purposes it may be found valuable. Also, on some of the high limestone soils of this State and Pennsylvania, where clover will not succeed. Fessenden says, "The cultivation of sain-foin is out of the question in New England, so large a portion of the plants being winter-killed, that it is not worth cultivating. This is affirmed on the strength of repeated trials."

## Experiments in the Manufacture of Corn-stalk Sugar. By Marcus Adams, Esq., Ogden, Monroe Co.

Our readers have been already informed, that a premium of $100 was awarded by the State Agricultural Society to Marcus Adams, of this county, for experiments in the manufacture of sugar from corn stalks. This subject is of so much general interest, that we copy from the recent Vol. of Transactions, with slight abridgment, Mr. Adams' full report of his experiments, with the important suggestions and inferences deduced therefrom.

*Raising the Corn.*—One acre of ground was selected of a sandy loam, cultivated last year to ruta-baga; this was manured with thirty loads of the best stable manure, well mixed in with the soil by twice plowing and harrowing. Corn planted the 13th of May, with eight-rowed northern corn; the rows three feet apart one way, and hills eighteen inches the other, with from six to eight kernels in a hill. Corn came up fine, and was plastered the 31st of May; hoed the first time the 9th and 10th of June, the second time 24th of June. Cultivator run through it three times. The corn began to tassel the 18th of July, and was in full tassel the first of August.

Up to this time the crop had looked uncommonly well, but from the 1st of August a severe draught commenced, and continued until the crop was very materially injured. Some spots where the corn had grown most luxuriantly, withered and dried up; other parts of the field suffered less, so that on the whole there was some more than half of a good crop, or what there would have been if the season had continued favorable.

*Cutting, Grinding and Boiling.*—Cut the first stalks, and made the first experiment at grinding and boiling, the 25th of August. The stalks at this time were quite green, but the produce was quite satisfactory, and appeared quite favorable for crystallizing. The juice was very abundant, of a greenish color, very rich, thick and heavy, yet retaining all the flavor of the corn-stalk, until after cleansing and boiling.

August 30th, made the second batch. This was boiled in a shallow sheet-iron pan, clarified and strained according to the directions given in Mr. Ellsworth's report.—From this batch was taken the specimen of sugar exhibited to the committee at the State Fair in Rochester.

Other experiments were made the 4th and 7th of September.

The object of these successive experiments was mainly to determine at what time the saccharine matter was sufficiently matured to make crystallized sugar.

On the 11th of September the stalks appeared in the right stage, and the cutting, grinding and boiling were commenced, and continued with little intermission until the whole was completed. The method pursued in this operation, was to keep a sufficient number of hands in the field to strip the leaves or blades, and cut off the tops as fast as the stalks were wanted for use; this labor was generally performed by boys. The cornfield being at a little distance from the mill, the horse used for grinding was put before a light wagon, driven to the field, the stalks were then cut and placed upon the wagon, (taking care to keep them straight and in order,) driven to the mill and ground without delay. A load of this kind in a light wagon, with lumber box, will make a batch of from fifteen to twenty gallons; this would be ground in about thirty minutes. Lime water was mixed with the juice while it was running from the mill. The juice is then strained through a flannel cloth into a pan, and heated, rather moderately, to the boiling point, when the scum is removed with a skimmer, then boiled rapidly for a few minutes. The syrup is then removed from the fire, and again passed through the flannel strainer, when the boiling is finished as rapidly as possible.

This process from the cutting of the stalk to taking the sugar from the fire, could not possibly be performed in less than two hours; and if the batch was larger, would often exceed three. Five batches were made in one day, from which one hundred pounds of sugar were produced.

*The Boiler.*—The boiler or pan, I made of a sheet of Russian iron, turned up at the sides and ends, lapped and riveted at the corners; would hold about twenty-five gallons, five and a-half inches deep, but from fifteen to twenty gallons is as much as would boil to advantage.—This pan is placed upon an arch of brick, so that the fire comes in contact with only the bottom.

*Mill.*—To construct this was a matter of much more difficulty. Some drawings and descriptions are given by Mr. Ellsworth, but little more could be known from them than that there must be three rollers, so placed and put in motion that the stalks in passing between them should receive two crushings.

To plan and construct a mill, with the proper dimensions and with the strength required, so that the work of crushing the stalks should be performed with certainty and despatch, was no easy task. I flatter myself that I have in this been tolerably successful. The rollers and iron work, patterns, &c, for my mill, were made by A. J. Langworthy, of Rochester, at a cost of sixty-five dollars. The whole weight of iron is about nine hundred pounds.

About one-half of the expense of the mill *is* in the horse-power. The iron rollers being placed horizontal, it was necessary to have a horse-power wheel and gearing in order to give them motion. If the more simple, and it would seem at first view, less expensive forms, given in Mr. Ellsworth's report, had been adopted, placing the rollers perpendicular, the horse passing around them, the rollers must have been of large diameter in order to take through the length of a cornstalk at one revolution of the horse. These large rollers, when made of iron, would have been very expensive, and probably not work as fast as the small ones I use, giving them a quicker motion by gearing. In my mill the circumference of the rollers has such a proportion to their motion that their velocity is equal to about one-sixth the velocity of the horse; or, in other words, a cornstalk six feet long, will pass through between the rollers in the same time that the horse will walk thirty-six feet. The grinding is a beautiful operation, the amount of juice contained in the stalk is surprising to every one. The stalks in passing through the mill are crushed very fine, and the juice entirely separated from them by the pressure of the rollers.

*Clarifying.*—This has been to me a difficult, and to some exrent an unsuccessful operation. All the various methods reccommended by different persons who have made some experiments on cornstalk sugar, and all that my own experience in clarifying maple sugar could could suggest, failed of producing fully the desired effect. In all the failures which have been experienced to produce crystallized sugar, the cause should be sought here. Unless the juice of cornstalks can be clarified, it is vain to expect a pure article of crystallized sugar. All the obstacles to the complete success of this enterprize are met at this point; but that they will be completely overcome, there cannot be the least doubt. Lime water applied to the juice as soon as it comes from the mill, one gill to fifteen gallons, was thought to produce the best effect. But experiments were made with various other things, such as milk, eggs, charcoal, &c.; these were used separately and combined, but nothing appeared to raise the scum as well and render the juice as clear and well-flavored as the lime water. One experiment was made by filtering the juice through sand andcharcoal; this rendered it very transparent and improved the taste, but there are very many objections to this process—the length of time required for the operation is a sufficient one.

*Straining.*—This operation is performed both before and after clarifying. The strainer used was a square yard of good new flannel, of fine texture; so great is the a-

mount of mucilage, or very minute particles of the cornstalk contained in the juice, that the strainer has to be rinsed in water once or twice in straining a batch. The second time straining is rendered more difficult by the juice being hot, as the hands have to be used in forcing it through the cloth. As knowledge and experience is gained on the subject of clarifying, the straining will be dispensed with, except to pass the juice through a coarse strainer to remove some of the larger impurities. Some method will be discovered by which all this foreign matter will be removed in the operation of skimming.

*Boiling.*—This operation requires care and close attention, particularly when about ready to skim, and when the juice is concentrated to about the point desired. The more rapidly this operation is performed, the more perfect will be the crystallization. But, however necessary it may be, it is scarcely possible, with any apparatus that I have any knowledge of, to perform the whole labor of cutting, grinding, straining, skimming, and boiling, in the short space of one hour, as recommened by Professor Mapes of New York. If this is ever done, it must be in very small quantities, or some very improved method must be adopted.

In boiling, as soon as the scum begins to rise, the fire must be regulated with care, that time may be had for removing the scum before it shall be boiled in. If the operation of boiling and skimming be well performed, about one gallon of thick heavy scum will be obtained from a batch of fifteen gallons. The syrup, when it becomes thick and nearly done, has a very beautiful appearance, in every respect equalling the best of maple syrup. To boil to the crystallizing point, (which is a very uncertain one,) requires considerable care and discrimination. The same tests that are used for maple syrup are equally applicable to cornstalk; as for instance, when it will flake off, breaking short, from a dipper or stick—or string out between the thumb and finger, from half an inch to an inch in length, is perhaps the safest test. Very great care is necessary here, that it be brought to the rignt point and no more; and also in managing the fire, as a little blaze, or too strong a heat, is most sure to scorch, and this is fatal to crystallization.

*Crystallization.*—Difficulty has been found here by all that have made experiments with cornstalk sugar; but perhaps every one has obtained a sufficient quantity that was well grained to satisfy them, that the difficulty was somewhere in the process of manufacture.

From recent observation I am inclined to think that I have kept my sugar in too cool a place. Two small parcels, left partly by accident where they received the warmth of a fire, were found well grained. But there is another difficulty after it is well crystallized, to make the molasses separate, or drain, as it is called: although the crystal appears to be as fine as was ever formed, still the molasses will not separate by any common methods used for maple sugar. As yet, I have not been able to procure any better specimen than that exhibited at the State Fair.

AMOUNT FROM THE ACRE.

Although the quantity of stalks was so much diminished by the drought, yet six hundred pounds were obtained; this, it should be understood, is weighed when taken from the fire and before graining has commenced. If it were all well grained and the molasses separated, the weight of sugar would probably not be more than five hundred, and molasses one hundred.

In order more fully to determine the amount that might be produced from an acre of good corn, I measured two square rods of the best corn I had: the stalks were then cut, and their weight was 195 pounds: after grinding, the juice weighed sixty-nine pounds and measured nine gallons; from this I obtained twelve and a half pounds of sugar. By this it would appear, that had the whole acre been as good as the two rods submitted to the test, one thousand pounds would have been the produce. And it would seem that this must be a safe calculation, as the stalks on the two rods were not as large as would be grown in a good season.

An equal amount by weight of large stalks of rank growth, and small ones that were grown thick, were ground separately; but as no material difference was found in the produce, my opinion is that the corn should be cultivated so thick that no ears will be produced.

[Here follows a list of items, which we omit, showing the expense of raising one acre of corn stalks, including rent of land, to be $19 52.]

There is no part of the business that is so tedious as plucking the ears, stripping the leaves, and cutting off the tassel. A part of this labor was performed for the fodder that might be obtained from it, but it was not sufficient to pay; as the labor of plucking the ears was performed for this consideration, I am unable to say what it would cost; but this much is certain, it is needless for the most part, as no ears of any amount need be raised, if the corn is sufficiently thick. From the best estimate that I can make of the expense of stripping leaves and cutting the tassel, I think that a smart hand would perform the work on an acre in six days, or for $4,50; making the whole expense up to the cutting of the stalk $24,02.

It is somewhat difficult to come at the expense I was at in manufacturing the acre of stalks into sugar, so much was done by way of experiment. But as one hundred pounds were made one day, I shall take that as my guide, and call it a day's work for two hands to make one hundred weight.

| | |
|---|---|
| The amount above brought down,..... | $24 02 |
| To twelve day's work making sugar, at 6*s.* per diem,..... ..... | 9 00 |
| To use of horse and wagon 6 days at 3*s.* per diem,..... ..... | 2 25 |
| To ¾ cord of wood at 12*s.* per cord,..... | 1 12 |
| The whole expense of cultivating the crop, and manufacturing the 600 pounds of sugar | $36 40 |

Or a fraction more than six cents per pound.

Some credit might be given for fodder, as a large amount of leaves or blades might be saved with a little extra labor while stripping them. The stalks, after being ground, are worth something, horses and cattle eat them very greedily when they are fresh from the mill.

REMARKS AND SUGGESTIONS BY WAY OF RECAPITULATION.

1. If good crystallized sugar of pleasant flavor shall be produced from the cornstalk, I see no good reason why its manufacture shall not become as universal as the raising of corn. Every neighborhood can as easily be supplied with its apparatus to make sugar as to make cider.

2. Corn should be grown so thick as to produce no ears. Some variety of corn that grows very large, like the "Ohio" or "Rocky Mountain" might be best; this latter is well adapted in some respects, as it is very little inclined to ears or leaves; cutting the tassel will not prevent earing, unless they are all cut and kept cut. The cutting of the stalk may commence as soon as the tassel is ripe. If the weather is warm, grind immediately; but if cool, or early in the morning, a little delay is not thought to be injurious.

3. Lime water is perhaps the best for clarifying of anything yet discovered; but some agent that will more effectually cleanse from all deleterious or foreign matter, is necessary. Science, with persevering experiment, will no doubt produce this result.

4. The less time occupied in boiling, the more perfect is crystallization. This is true of the maple juice, and probably more so of the cornstalk. To boil to advantage, two pans should be provided.

5. Any man of ordinary ingenuity, can make a pan in two hours, with no tools but cold chisel, punch, hammer and six cents worth of rivets.

6. I make no doubt that a mill with wooden rollers would answer a good purpose for a small operation, and small operations are what are wanted; let no man go into this business *largely* until there is more knowledge on the subject. A simple mill with two rollers, that might be built for five dollars, would crush the stalk and save most of the juice. No cog-wheels can be necessary; for if you turn one, the other must go. When experience has taught how to clarify, so that we may be sure of a good article, then will be time for more perfect and expensive machinery.

7. If the result of this enterprise depended on the amount of saccharine matter contained in the cornstalk, its success would be certain. Estimates that have been made of the amount that might be made from an acre, have probably never been too high. Improvements in cultivation, and in finding the variety of corn best adapted, will no doubt greatly exceed these estimates.

8. The expense, as compared with maple, must be much in favor of cornstalk. Of the expense of growing an acre of cornstalks, every farmer may judge correctly; then compare the amount of fuel, the amount produced in a day, the expense of fixtures, and it is all vastly in favor of the cornstalk. Only let the cornstalk sugar have the delicious flavor and the beautiful chrystallization of the improved maple, and no longer will that pride of the forest be hacked and bored "with wicked hands," to obtain its sap.

May we not hope that Mr. Ellsworth's forth-coming report will throw much light on the subject? The collected experience of all that have been engaged in the business the past season, will soon be laid before Congress and the people. If Professor J. I. Mapes, shall fulfill his pledge made in the last report, some scientific and practical information will no doubt be the result.

[We shall give some extracts from Mr. Ellsworth's Report in our next.]

With these remarks, I submit this report. I have endeavored to give a faithful and full account of my experiment. I am aware, that on some parts of this business, I cannot speak as favorably as might be desired; but for myself, I have no fear of the result of the enterprise. I would beg leave to suggest, that a liberal premium be offered next year, for a given amount of cornstalk sugar of the best quality. This might stimulate, not only a greater amount, but more careful experiment.

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CULTURE OF MADDER.—We would call attention to the advertisement of Messrs. Thorburn & Co., in this paper. We learn that the price of Madder is very high at present, and is likely to continue so for some time to come; so that there is great inducement for engaging in its cultivation. It is estimated that over a million of dollars are annually paid for this article, imported into the United States. For directions for culture, see New Genesee Farmer for March, 1843, or an article in the new "Volume of Transactions."


# New Genesee Farmer.

ROCHESTER, JUNE, 1844.


## EDITORIAL NOTICES.

TO CORRESPONDENTS.—Our thanks are due for proofs of remembrance from several of our old friends. Will not others favor us in the same way, these busy times? A communication from S. W. and one from D. L. arrived too late for this number. Several other articles are crowded out; among them are, a notice of the volume of Transactions of the State Agricultural Society; Remarks at Agricultural meetings at Albany, &c.

Mr. O'REILLY will accept our thanks for numerous papers sent us.

☞ HORTICULTURAL IMPLEMENTS.—Mr. Smith, of the Seed Store, has recently returned from Boston with an extensive assortment of fine tools and implements of horticulture. Call and see them.

"THE SILK QUESTION SETTLED.—Report of the proceedings of the National Convention of silk Growers and Silk Manufacturers, held in New York, Oct. 13th and 14th, 1842. Second Edition with additions."

We noticed this highly important work last fall. We are happy to find that it has been stereotyped, so as to be afforded at a very low price. Every one in any way interested in the silk business, should obtain a copy without delay.—The amount of intesesting facts and valuable instruction it embraces will astonish those who have not read it.—It is published by S. R. Marvin, Boston, and sold at the very low rate of 130 copies for $10; — 60 do. for $5, or ten cents per copy for a less number; orders, to be accompanied with the cash, and free of postage. A few public spirited individuals have contributed a large amount towards the expense of publishing this work, and the friends of the cause should take efficient measures to give it circulation.

## Colman's "European Agriculture and Rural Economy."

The first part of this long-expected work has been received, and as far as we can judge, it fully meets the expectations that had been formed respecting it. We have not, for many a day, enjoyed so rich a treat as it has afforded us. We read it through as one would a fascinating tale, unwilling to leave it till we reached the end, and then regretting that there was no more. All who are familiar with Mr. Colman's style, are aware what a happy power he has of taking the minds of his readers along with him, and causing them to witness the scenes which he describes. Such was peculiarly the effect upon us, while reading this work. We saw him "plowing a long, bright furrow" across the wide Atlantic; we participated in the emotions with which he first "set foot in England, the green isle in the ocean, the brilliant center of so many youthful imaginations, the home of his fathers," and *our own* loved *native land*. We followed him through the familiar scenes of our childhood and youth, till imagination seemed reality, and our emotions bore willing testimony to the truthfulness of his descriptions.

All who intimately knew Mr. Colman were certain that he would make an interesting book—brilliant with the scintillations of genius, and warm with generous philanthropy—a book that will improve the heart and enlarge the mind, whatever might be its character with regard to science, or the practical details of agriculture. It is impossible to judge of the practical character of the work from this one number; as the first part must necessarily be of a general nature, introductory to the main subjects. It is evident, however, from the plan he has marked out, that he intends to make the work highly instructive, and, we doubt not, sufficiently practical for the most *utilitarian* of his subscribers. That he is abundantly qualified to do so, we need only refer for evidence to his reports on the agriculture of Massachusetts, and to the New Genesee Farmer for 1842.

It is impossible, with our limited space, to give more than a mere glance at the contents and style of the work. All who feel interested in the subject should examine it for themselves, and subscribe for it, if they think it worth the money, as we believe they will. The whole work will comprise ten numbers of from 80 to 100 pages each; price $5. (See notice of the agent, in this paper.)

The contents of this number, or the titles of the subjects treated of, are—a Preface; Credentials; General Facts

and Considerations; Particular Objects of Inquiry; Science and Agriculture; English Agriculture; English Capital; General Appearance of the Country; Hedges and Enclosures; Iron and Sunken Fences; the English Parks; Ornamental Shrubs and Flowers; Agricultural Population; Allotment System. A list of subscribers is appended, numbering two thousand.

## Agricultural Papers—Southern and Western.

Having briefly noticed all the periodicals devoted to agriculture and horticulture in this State and New England, we now complete the catalogue by mentioning those in the south and west of us. (If any are omitted, it is owing to our not having seen them since the commencement of the new year.)

*The American Farmer*, Baltimore, Md., must of course stand first on the list. It is the oldest agricultural paper in the United States, and is second to none in point of talent and usefulness. Weekly, quarto, $2 50 per year: S. Sands, publisher.

*Farmer's Cabinet*, Philadelphia. This paper gained a high reputation and extensive circulation under the management of friend PEDDER, author of "Frank," the pleasing "dialogues between a Father and Son," &c. It is now conducted by JOSIAH TATUM, who well sustains the character of the work. Monthly, octavo, 32 pages, $1 per year.

*Southern Planter*, Richmond, Va.; C. T. BOTTS, editor. An ably conducted work, of neat appearance, well calculated to improve the agriculture and promote the planting interests of Virginia. Monthly, 24 pages, covered, $1 per year.

*Southern Agriculturist and Horticulturist*, Charleston, S. C., E. A. MILLER. Similar to the preceding; very neat and well conducted. Monthly, 40 pages, $3 per year.

*Southern Cultivator*, Augusta, Ga.; J. W. and W. S. JONES. A very pretty quarto sheet, published twice a month, and well filled with choice selections and well written articles, calculated to improve southern agriculture. $1 per year.

*The Agriculturist*, Nashville, Tenn.; J. SHELLY, G. FROST, and T. FANNING, editors. This is a large monthly publication, and its trio of editors evince a high degree of talent, making it a very spirited and able advocate of improvement in agriculture. Its great merit, combined with low price, must give it extensive circulation and influence in the Mississippi valley. Double quarto, $1 per year.

*Western Farmer and Gardener*, Cincinnati, O. We have not seen this work the present year, but we learn that it is going on successfully, under the management of Messrs. HOOPER & ELLIOT. It devotes particular attention to horticulture; and as it is made the organ of the spirited Horticultural Society in that place, it must contain much that is valuable and interesting. ☞ Please send us an exchange.

*The Western Cultivator* is the title of a new paper recently started at Indianapolis, Ia., by W. T. HATCH. It gives good promise of usefulness, and ought to be sustained. There is no other of the kind in the State.

*The Prairie Farmer*, Chicago, Ill.; J. S. WRIGHT and J. A. WIGHT. This is a spirited and influential paper, conducted with much ability, and particularly devoted to the agriculture of the far west, or prairie country. It is well printed, and very cheap withal—24 large pages, with a printed cover, monthly; $1 per year.

*The Michigan Farmer*, Jackson, Mich.; D. D. T. MORE. We do not put this last because we regard it as least, by any means; but because we wanted room to give friend More an *extra touch*. His paper deserves the cordial support of the Farmers of Michigan, and its Editor deserves great credit for the industry and talent he has displayed during the past year. (*Aside.*) We almost regret to learn, that his paper is getting very popular among the ladies! We know he is a nice young man, and a bachelor; but report here says, he is not in the market; and he ought to consider, that some of the communications he has published of late, might cause anxiety in the mind of some one in this region: even *Flinty* hearts can be broken.

### IN CANADA.

BRITISH AMERICAN CULTIVATOR, Toronto, W. G. Edmundson. This is a well conducted and spirited paper, an able advocate for improvement in Canadian agriculture.—16 pages monthly, $1 per year.

CANADIAN AGRICULTURAL JOURNAL, Montreal, L. C. WILLIAM EVANS. This is a new paper, and from the known ability of its editor it will, no doubt, be found well deserving of patronage. Terms same as preceding.

## The Season—Prospects of Fruit—Wheat Crop.

The weather during most of the past month has been very favorable to vegetation; and the season continues remarkably forward. (See Diary on p. 56.) Two or three slight frosts have occurred, but done no serious injury, excepting to very tender plants that were exposed. Fruit of all kinds is very forward, and promises unusual abundance. Peaches and other kinds are set far to thickly, and should be thinned soon where fine specimens are desired. We take this occasion to notify the epicures of Boston and New York, that if there is any scarcity of *peaches* in those places this season, our friends in this region will be happy to send them a supply, for a reasonable compensation.

*The Wheat Crop* is now (June 1) showing head and generally looks finely, although in some fields on light soil the crop will be very scant. Some pieces have also been greatly injured by the worms, but as far as we can learn, such are not very numerous. The accounts from the West and other parts continue favorable generally, though there are some exceptions like those mentioned in this region.

## Remedy for Striped Bugs, &c.

These destructive insects have appeared in greater numbers than usual this season, and we are almost daily inquired of respecting the means of preventing their ravages. The common applications, such as dusting the plants with ashes, plaster, sulphur, &c., seem to have but little effect—unless it is to injure the plants. We have experimented on these *varmints* many years, and never have found a remedy so easy and effectual as sprinkling the vines, night and morning, with suds made of WHALE OIL SOAP. This article is obtained in the process of bleaching sperm oil. It is sold at the Seed Store in this city at 25 cts. per. quart.

*To make the Suds*, dissolve the soap in two or three times its measure of hot water, then dilute the liquid with cold (soft) water in the proportion of about eight gallons of water to a quart of soap. Or in other words, take a common sized pail, two thirds full of hot water, stir in one gill of the soap, and when cool it is ready for use. Wet the leaves on both sides if possible; without spilling much on the ground. It will promote the growth of the plants as well as keep off the bugs, if not applied too plentifully.

This is also an effectual remedy for slugs and lice on fruit trees. For this purpose it is best applied with a common garden syringe.

For the New Genesee Farmer.

## Fruit Trees—Buds—Insects.

Eds. N. G. Farmer—The following extracts from letters received last year, may prove valuable to those engaged in the cultivation of fruit:

"Last summer I set a considerable number of cherry buds, which *took;* but this spring they proved to be blossom buds; and when the blossom dropped off, an involucrum of about three leaves remained, opening into a centre, which was filled with what the earth hangs upon—nothing. I was not satisfied, however, to be served in this manner, and insisted on the stock's making another effort to start the bud or its rudiment; and after waiting some fortnight or so, new shoots started on one side of the old bud, and are now growing finely. I think these must be '*adventitious buds*,' although vegetable physiologists say the stem of the cherry tree produces none. We know the roots produce them in abundance, and most probably our philosophers have not tried all kinds of experiments."

"I have observed for several years a white aphis round the small apple trees, near the ground, and frequently occurring under the old plasters where the grafts were set. Generally, I rubbed them over with my finger, but the surface being irregular, I presumed that only a part of them were crushed. This season, however, they have assumed a more formidable appearance. They have got higher on the trees, appear to be increasing fast, and have every characteristic (I believe) of *American Blight*. I have therefore commenced a war of extermination, carried on in the following manner: In the first place, I cut off the branches which they infest; and where they are on the main stem, I shave them off, throwing all into a close vessel for burning. In a few days, I intend to examine them with a can of whitewash in one hand, and a small brush in the other, so as to pay them off thoroughly. If I had attended to this two year's ago, nine-tenths of the labor would have been saved."

An ounce of prevention is worth a ton of cure—in this case at least; as well as in case of the "*black gum*" on the plum and cherry, the *fire blight* in the pear; the yellows in the peach,—and all other diseases of fruit, which either spread from branch to branch till they destroy the tree, or from tree to tree till they destroy the orchard. A word for the wise is enough, but for the slothful nothing will do, and no one ought to expect to enjoy fine fruit who is not willing to labor for it. The "American Blight," apparently introduced into this country from England, and into the Western from the Eastern part of the state, is slowly and gradually increasing. A little care at the outset may prevent the destructive ravages it has occasioned in Europe; but if not soon attended to it may cost a thousand times the labor needed now. The conflagration which destroyed the city was from a neglected spark. J. J. T.

For the New Genesee Farmer.

## Fruit—Agricultural Exhibitions.

Several of our county societies have declined giving any premiums on fruits. Is it because this production, of the farm is not a part of our agriculture? If so, then it should become so without delay. Two years ago, an extensive farmer in this town obtained more from his few acres of orchard than from all the rest of his farm. Another farmer in a neighboring county sold the same year about fourteen hundred dollars worth of apples from his orchard. Another person fattened forty dollars worth of pork from the droppings of half an acre of good apple trees. Whatever crops are too much neglected, it is the object of Agricultural societies to encourage. If they are at the same time destined to be eminently profitable, they are doubly worthy of encouragement. Fruit of all kinds, and especially fine fruit, is of this class.

Fruit is valuable in three ways; first, as food for man, either cooked or otherwise, saving, in the family which consumes it, many bushels of wheat per annum; and a plentiful supply of sweet apples, many pounds of sugar. Secondly, as food for domestic animals, horses, cows, hogs, and smaller animals, being cheaper and more easily raised than any grain or root crops. Thirdly, as a product for market. In addition to the cases just named under this head, may be mentioned some others:—Wm Otley, of Phelps, sold $10 worth of apples from one Greening tree which bore 40 bushels. His neighbor sold $30 worth of pears, the tree producing 40 bushels at 75 cents per bushel. Samuel Hecox, formerly of Lyons, sold three years since seven dollars of cherries from one tree of the yellow Spanish, and Zerah Burr, of Perinton, eight dollars worth last summer from two small trees of an early variety. What would an acre of such trees produce?—or ten or twenty acres, if convenient to market? Shall agricultural societies encourage this branch of home production?

A few remarks as to the exhibition of fruits. Every one knows that a great part of our countrymen regard fruit and fruit trees very much as the Arabs of western Africa regard shipwrecked merchandise—all as lawful plunder within reach. The difficulty of raising fine fruit—the disappointments in getting the kinds—the losses in transportation and transplanting—the disasters from diseases, insects, mice, birds, cold weather—the long labor of careful culture, and the long year of patient watching till the trees come into bearing,—are understood to be the business exclusively of the cultivator; eating the fruit is none of his work. That belongs to those who don't raise it, or won't raise it. Whether this is right or wrong, is not now the question. The fact cannot be denied. Our agricultural fairs show how true it is. The fruit table must be fenced in, as much as a cornfield from a herd of starved cattle. Last autumn at Rochester the fence was not high enough; so that notwithstanding the five men who were the judges of fruit were occupied about half the time in watching the fence and guarding the table, while they should have been examining the fruits, several of our well-dressed countrymen succeeded in snatching some fine specimens. It is to be presumed that those "gentlemen" would not have taken a pocket book—while they could get such fine fruit in its place. At Albany, a strong guard kept most of the fruit from plunder. But at Syracuse, where there was no fence round the fruit, the case was different. It was kept locked in a room, till examined by the state committee, and the doors were then opened to the multitude. * * * * *

In TEN MINUTES the eatable part of the fruit had disappeared. The writer carried a large collection, which he guarded for a time, but being called away, it went like chaff in a tornado.

Some of our county societies have provided for this difficulty, by placing a railing round the fruit table, full breast-high, which no one would venture to leap, and over which all may see, and beyond the reach of the longest arm. It is to be hoped that others will do the same, and then cultivators will be encouraged to bring in their treasures. The fence should be about four feet four inches high.

Macedon, 1844. J. J. T.

## Philosophy of Wheat Culture.

No apology need be made to our readers for the number of articles we have given of late, of a character similar to the following. *The Philosophy of Wheat Culture* is a subject pre-eminently demanding the investigation of reading and thinking farmers, at the present time; and we are happy to know, that quite a number, especially of young farmers, are beginning to devote much study to this science.

We are aware that the terms *science* and *philosophy*, in connection with wheat culture or any other branch of the farmer's art, only excite a *sneer* in the minds of some; but let them sneer as they please, it is nevertheless true, that the time is speedily coming, in this and other countries, when farming can no longer be prosecuted with advantage except by those who have made themselves familiar with the principles of science and philosophy, and understand how to apply those principles in their practice of the great art of agriculture.

The following article was prepared by our friend "D. L." and read at one of the agricultural meetings recently held in the State House, at Albany.

"Mr. President: The question for investigation, this evening, I believe to be this: 'Is it practicable, and if so, will it be profitable, to grow wheat south of the limestone strata that extend west to Lake Erie, through the central portion of this State?'

"The soil in the region alluded to is based on shale and free-stone rocks, and, lacking lime, its sulphates and phosphates, it is but poorly adapted to wheat culture.

"Practically, then, the question to be solved is this: How much lime, sulphur, and phosphorus must be added to the shale and free-stone soils, in the southern tier of counties, to make them good wheat lands, and what will be the expense per acre?

"If we take 100 lbs. of ripe wheat, including root, stem, and head, and burn it in the open air, about 97 per cent. of its weight will be converted into vapor and gas, and escape into the atmosphere. The ash, or 3 per cent. left, will, on analysis, show the earthy elements necessary to produce this grain. Liebig and Johnston both quote the following analysis, made by Sprengel, as entitled to confidence:

| | *Wheat ash.* |
|---|---|
| Potash | 0.6 |
| Soda | 0.3 |
| Lime | 6.8 |
| Magnesia | 0.9 |
| Silica, (flint) | 81.6 |
| Alumina, and oxide of iron | 2.6 |
| Phosphoric acid | 4.8 |
| Sulphuric acid | 1.0 |
| Chlorine | 0.9=100.00 |

"When it is recollected, that there is never more than three or four per cent. of the above earthy substances in wheat, and that Silica (sand) composes 81.6 per cent. of even that small portion, it will not, I trust, be deemed incredible if I express the opinion that, by the aid of a little practical science, good wheat may be grown profitably in any county in the State.

"This plant has been raised in a great variety of artificial soils, where each ingredient was carefully weighed, both before and after the plant was taken from the earth. By careful analysis, what the soil had lost, and what the plant had gained, was susceptible of demonstration. A very large portion of the elements of all cultivated plants come from the atmosphere. The precise amount depending alike on the composition of the soil and the nature of the particular plant upon which the experiment was made.

I regard it as a fact of great practical importance, that wood ashes, (even leached ashes, so abundant in the southern tier of counties,) contain all the earthy elements of this invaluable bread-bearing plant. Compare the following table, showing the constituents of beech ash, with that of wheat ash—(this is also taken from Sprengel:)

| | *Beech ash.* |
|---|---|
| Silica, (sand) | 5.52 |
| Alumina, (basis of clay) | 2.33 |
| Oxide of iron | 3.77 |
| " manganese | 3.85 |
| Lime | 25.00 |
| Potash | 22.11 |
| Soda | 3.32 |
| Sulphuric acid | 7.65 |
| Phosphoric acid | 5.62 |
| Chlorine | 1.84 |
| Carbonic acid | 14.00=100.00 |

"Maple, birch, and other wood, contain the same minerals.

"Note the 25 per cent. of lime, in the above analysis, being larger than that of potash. Our primitive forests have been for centuries drawing the above earthy constituents of wheat from the soil; and instead of carefully preserving this indispensable *raw material* of good wheaten bread, thousands of bushels of leached ashes have been thrown away! Being but slowly decomposed by the vital action of plants, ashes are an enduring fertilizer when compared with stable manure. Mixed with quick lime, their good effects are more speedily obtained. Lime will render alumini, either in the soil or in leached ashes, soluble in water, so that it can enter the minute pores of roots. Clay in the soil is always combined with a large portion of silica; and before it has been exhausted by continual cropping, it holds in combination considerable potash and soda. Lime, by combining with alumini, the basis of clay, liberates these alkalies and silica, which uniting chemically, form soluble silicates of potash and soda. These also enter into the circulating nourishment of plants, and are decomposed in the stems of grasses and cereals. The silica goes to make vegetable bone, to keep the plant upright; while the potash and soda go back to the earth, to dissolve, as before, another portion of *sand*, to be also absorbed, and transformed into *bone*. It is in this way that a few ashes, applied to a sandy soil, will enable grass and grain to take up the 81 per cent. of flint found in their ashes. Lime will do the same thing on clay soils, for the simple reason that they generally do not lack potash. soda, and magnesia.

"The quantity of lime and ashes to be applied to an acre, will depend entirely on their cost at the place where they are to be used. A few bushels will be of essential service; but a larger dose will be better.

"I come now to speak of the organic elements of the wheat plant, which, as I have already intimated, form 96 or 97 per cent. of its substance. Water and its constituents, oxygen and hydrogen, carbon and nitrogen, are the four elementary ingredients of all cultivated plants, beside their minerals. As there is no lack of water or of its elements, oxygen and hydrogen, our attention will be confined to obtaining a full supply of carbon and nitrogen. These are indispensable, and fortunately nature has provided an amount of carbon and nitrogen in the air, if not in the soil, more than equal to all the wants of vegetation. A large portion of the fertilizing elements of vegetable mold, in a rich soil, is carbon, and a small portion is nitrogen; both of which are usually combined with other substances. These important elements are often nearly exhausted in fields which have been unwisely cultivated; and I have paid much attention to the subject of cheap and practicable renovation.

"By the aid of clover and buckwheat dressed with gypsum, ashes, lime, or manure, and plowed in when in blossom, much can be done in the way of augmenting the rich vegetable mold so desirable, to a certain degree, in all soils. Straw, corn stalks, leaves of forest trees, and swamp muck, made into compost with lime and ashes, are of great value. Charcoal well pulverized, and saturated with urine, I regard as the cheapest and most useful fertilizer that can be applied to a poor soil, for the production of wheat or almost any other crop.

"The earths contained in charcoal, as the analysis of its ash demonstrates, are identical with the earths found in the wheat plant. Coal contains a very large portion of carbon, and will imbibe from the atmosphere a large quantity of nitrogen in the form of ammonia and its carbonates. Unlike stable manure, the salts of lime, potash, soda and magnesia, it will not waste by premature solution nor by evaporation. On the contrary, it is of incalculable value to mix with the liquid and solid excretions of all animals, to absorb and fix in a tangible condition those volatile, fertilizing elements, which are so prone to escape beyond our reach.

"When it is recollected that without nitrogen in some form, it is utterly impossible to grow one kernel of good wheat, and that a pint of human urine or four quarts of that of the cow, or one quart of that of the horse fed on grain, contain nitrogen enough to supply 60 lbs. of wheat, we may begin to understand something of the money value of this animal product. But mind this suggestion. Nothing is sooner lost than the hartshorn in an open smelling-bottle, or a large share of the ammonia in free urine in a warm atmosphere. Charcoal and gypsum will absorb it in large quantities, and give it out at the roots of plants as their wants require. In feeding plants, great judgment should be exercised. At least one-half of the food fed out to them in the shape of stable and barn-yard manure, is entirely lost. It escapes into the air, or is dissolved prematurely, and carried like the potash in water running through a leach, beyond the reach of your hungry, if not starving plants.

"I have just separated a half pound of wheat-flour into its proximate elements of starch and gluten. The gluten I have in my hand. It is nearly identical with animal muscle. It forms from 7 to 35 per cent of the bulk of wheat kernels. The more gluten flour contains, the more good bread a given number of pounds will make. A barrel of flour rich in gluten, will make 10 per cent more of bread than one which is nearly all starch. Gluten will bear far more water than starch. The quantity of this meat-forming principle in wheat, depends in a good degree on the quantity of nitrogen in the soil where the wheat is grown.

## Agricultural Museum of the State Society.

As it is the purpose of the State Society to carry into immediate effect the project of forming an *Agricultural Museum*—a collection that will embrace all attainable varieties of articles interesting to the Farming Community—the friends of Agricultural Improvement, many of whom have often manifested willingness to contribute to this object by the donations of suitable specimens, (and the wide range of the Society renders it expedient to make the collection as comprehensive as possible,) are requested to forward their contributions as soon as practicable.

The makers of new or improved Agricultural Implements—the Farmers and Planters in this and other States who desire to disseminate information in reference to their operations in stock or grain or other Agricultural Products—the friends of Horticulture and the Domestic Arts—as well as the publishers of Agricultural Journals in this and other States—are respectfully requested to lend their influence in promoting the purposes of the State Society, in reference to all or any of the above mentioned projects. The owners of Improved Breeds of Horses and Cattle may also find the State Agricultural Hall a suitable place for exhibiting Portraits of Animals of the several varieties of Stock.

Specimens in every Department of Natural History and Science, will be acceptable as contributions for the Agricultural Museum.

Contributions of any kind, in furtherance of the specified objects, may be forwarded by the express or transportation lines direct to Albany, or may be made to either of the following officers of the Society, viz: John P. Beekman, President, Kinderhook, Columbia County; Thomas L. Davies, of Dutchess; J. B. Nott, Thomas Hillhouse, or J. M'D. M'Intyre, of Albany; George Vail; Henry S. Randall, Cortland; Rawson Harmon, of Monroe; B. P. Johnson, of Oneida; E. Kirby, of Jefferson; George J. Pumpelly, of Tioga; John Savage, of Washington: Joel Rathbone, Luther Tucker, and the Corresponding Committees of the State Society, as well as the Officers of the County Societies, are respectfully requested to co-operate in furtherance of this design.

The valuable collections in Natural History, resulting from the State Geological Survey, are all contained in the apartments adjoining the Agricultural Hall in the old State House: and the public generally—not merely the friends of Science, but the Political Economists and the Business men who are desirous of tracing the connection of the Geological Survey with the Agricultural and other Industrial Interests of the community—may find ample re-payment for the time employed in the examination.

ALEXANDER WALSH,
JAMES LENNOX,
EZRA P. PRENTICE,
*Com. on Library & Museum.*

## Mr. Ellsworth's Report.

Few men, in our estimation, deserve more thanks and honor from their country than the Hon. H. L. Ellsworth, Commissioner of Patents. His labors for the promotion of agricultural improvements have been evidently dictated by the soundest patriotism, as well as prosecuted with untiring energy. His annual report, recently published by Congress, (15,000 extra copies,) forms a volume of 335 pages; and will be read with interest by every intelligent farmer and friend of improvement who is fortunate enough to secure a copy. A large portion of the work is devoted to matters connected with agriculture; and we should be glad to make liberal selections for our pages, if our space was not otherwise engaged. We can only give a few brief items now, with a promise of more hereafter.

"Five hundred and thirty-one patents have been issued during the year 1843, including eleven re-issues, fourteen designs, and two additional improvements to former patents.

"During the same period, four hundred and forty-six patents have expired.

"The applications for patents, during the year past, amount to eight hundred and nineteen, and the number of caveats filed was three hundred and fifteen.

"The receipts of the office for 1843 amount to $35,315 81, from which are to be deducted, repaid on applications withdrawn, as per statement marked A, $5,026 66. The ordinary expenses of the Patent Office for the past year, of cluding payments for the library and for agricultural statistics, have been $24,750 30, leaving a net balance in $4,538 85 to be accredited to the patent fund.

"The whole number of patents issued by the United States, up to January, 1844, was 13,523. The patents granted for the year, it will be seen, have exceeded those of the previous year by 24; and the excess of applications has amounted to 58.

"The report on agricultural statistics will be found in the document marked D. In the preparation of this report, an extended correspondence has been opened, both at home and abroad; numerous American and foreign publications have been procured and consulted, and the result is presented with an increasing confidence in its accuracy. The deep interest which is felt in this part of the report of the Commissioner of Patents, has been manifested in the constant application to this office for copies, which could not be supplied, notwithstanding the extra number printed by order of Congress. Additional information has been obtained respecting further improvements in manures, crops, seeds, and implements, and such new applications of agricultural productions as promise to be useful to our country. 12,000 packages of seeds will have been distributed from the Patent Office this year; and when we recollect, as mentioned in a former report, that the improvement of 10 per cent., by the selection of seeds, would increase the value of the value of the agricultural products $30,000,000 annually, the attempt thus far made by this office must be deemed a good beginning for still more extended benefits.

"As one means to the end proposed, a more systematic effort to obtain suitable seeds, through the instrumentality of our diplomatic corps, would be desirable. In foreign publications, notices of superior varieties of grain occur, showing, in the simplest manner, the items of expense; and some of these varieties could, doubtless, be advantageously acclimated in our country. For instance, rice is now cultivated in high latitudes in Europe. A hardy kind also flourishes on the edge of the snows of the Himalaya Mountains; and there is every reason to believe, upland rice may be raised wherever Indian corn will ripen. Such is now the opinion in Europe; and some seed has been ordered, which I hope before long to receive for distribution.

"In my last report, I alluded to the importance of appropriating more labor to the preparation of agricultural statistics. The annual reports will show, that much time is necessarily occupied in collecting information. The materials are to be gathered both at home and from abroad. Vastly more might be done, and with still greater accuracy, were the energies of an individual devoted to this subject. The present duty on my part is, in a great measure, performed out of office hours. The examination of agricultural journals and correspondence is the means now chiefly employed for the purpose of gaining information. Personal conversation, and occasional journeys, have likewise afforded some aid in the prosecution of the object. Allusion to personal feeling may possibly seem out of place. The past, however, is a pledge that I cherish at least a strong desire to aid the agricultural community, embracing by far the larger portion of our whole population."

## Poudrette as a Fertilizer.

Several market gardeners, and others in this vicinity, have expressed a desire for information respecting the use and cost of poudrette manure. On writing to the principal manufacturer, D. K. Minor, Esq., New York, he immediately sent us three barrels of the article for experiments, and full information concerning it. We subjoin such statements as appear most important, and will see that the three barrels are properly disposed of. If its effects on our soil equal the accounts given in other parts—and we have no reason to apprehend they will not—it must prove a profitable application for many purposes. We shall be happy to forward orders to Mr. Minor for any of our readers who desire to give it a trial.

We select the following from the papers forwarded us, and will simply add that the names attached to the statements are of gentlemen well known in the community, and of the highest respectability.

Letter from Dr. George Emerson, of Philadelphia, to the Editors of the "Farmers' Cabinet."

### POUDRETTE ON CORN.

"Mr. Editor—I last spring made experiments in Kent Co. Delaware, on Indian Corn, with Poudretta, manufactured by Mr. Minor. This concentrated manure was applied in its usual form, that of a course powder—dropped in contact with the seed at the time of planting, and in other cases thrown upon the hill after the corn had come up. The experiments were made in three different fields, all, however, of very similar soil, namely, a light clay loam, greatly impoverished by long tillage, without the assistance of manure. In every instance the corn grew off with a rapidity which made it the admiration of all who saw and compared it with that growing in the vicinity, even such as had received the help of other manure. The quantity applied was only a gill to each hill, or about ten bushels to the acre—and the product was in every case at least double that on the adjacent ground. Where the application was made in contact with the seed, the corn proved the best. I have made arrangements for using this valuable fertilizer quite extensively on corn next spring, and shall also try it as a top dressing for wheat, to be applied in March and April. To those especially who reside at a distance from large towns, and are without other abundant sources of manure, the poudrette is a most valuable acquisition, as its concentrated form allows it to be transported at comparatively trifling expense. Yours, respectfully,

G. EMERSON.

Philadelphia, Dec. 30th, 1843.

The following letter is from a practical farmer in the immediate vicinity of New York, who makes no pretensions to science, but still claims to understand how to raise good crops; and from his statements here given I think no one will be disposed to deny him that credit. He usually hauls large quantities of stable manure from the city, and was long an unbeliever in the value, or a *non usor* of poudrette, but he used it in considerable quantity in 1841 and 1842, and in much larger quantities in 1843.

In his letter, dated Newtown, L. I., November 2, 1843, he writes thus:

"D. K. Minor—Sir, I have used *poudrette* of the manufacture of your company, and have seen its good effects on flowers and garden vegetables generally; but more especially when used on wheat, and grass following it.

In the fall of 1841, I manured a field for wheat with the best stable manure from the city of New York, at the cost of $33 per acre, except one acre through the centre, on which I put forty bushels of Poudrette, at 40 cents a bushel, and transportation $1,—equal to $17 per acre. On cutting the grain in 1842, I could perceive no difference, except that the straw was shorter where the Poudrette was used than where stable manure was used; nor could I perceive any difference in the grass, on mowing it this season, or in the pasture up to this time; the grass and pasture being quite as good where the Poudrette was used.

This year I cut a piece of wheat which was manured with Poudrette last fall, at the same rate, forty bushels per acre, which is as good as any in the country, yielding thirty-six bushels and a half per acre, weighing sixty-one and a half pounds per bushel; though Long Island is not considered a good wheat country.

On corn, I think it should be spread broad cast, as it is too powerful to be used in the hill at the rate I use it, forty-five bushels to the acre. My corn this year is nearly double where I used poudrette at that rate broad cast on the sod before it was broken up, to that which was planted with other manure.

I have a piece of wheat sowed this fall, manured with Poudrette, fifty bushels to the acre, at the cost of $16 50, (Poudrette costing less than in 1841) which looks exceedingly well. I have used poudrette this year in large quantities, and can recommend it as a good and cheap manure, especially when the farmer has to haul his manure any distance.

I remain, yours, &c.,

T. B TOWNSEND.

Newtown, L. I., Nov. 2d, 1843."

P. S. I have several other letters, giving detailed statements of its use and effects, which I desire to publish soon, that the farmers may be able to judge of *whom* to purchase when they desire a *good* article. They may find it quite as safe to purchase of those who show what they *have* done, rather than of those who are frequently telling what they *are going to do*.

Those who desire to obtain it either in small or *large* quantities, can be supplied *without delay*, on application, either personally, or by letter, enclosing the cash to

D. K. MINOR,
23 *Chambers Street, N. Y.*

N. B. *Present* price, *one* barrel, $2; *three* barrels $5 and ten bbls. and over, $1 50 per bbl. delivered on board of vessel.

## Meteorological Diary,

KEPT AT THE ROCHESTER COLLEGIATE INSTITUTE, BY L. WETHERELL.

April 27—Frost this morn. Laurus sassafras in bloom.
" 29—A little frost this morn.
" 30—Chimney swallow, golden-winged and red-headed wood-peckers, and golden robin, first heard.
May 1—Pisum sativum (garden pea) in bloom.
" 2—Rain last night and this morning. Syringa vulgaris (lilac) in bloom.
" 3—Juglans cinerea (butternut,) Cornus florida (false box,) cratægus coccinea (thorn bush,) in bloom.
" 4—Æsculus hippocastanum (horse chestnut) in bloom. Redthrasher and kingbird heard. Rye and wheat begin to show heads.
" 5—Rain to-day, with thunder. House-wren heard.
" 6—Showers, with thunder.
" 7—Geranium maculatum (crow-foot geranium) in bloom.
" 8—Rain. Aurora borealis. Towwee-finch heard.
" 9—Frost; rain in the evening. Sorbus Americana in bloom.
" 10—Virburnum opulus (guelder rose, snow-ball) in [bloom.
" 11—Thunder showers.
" 12—Cool and high wind.
" 14—Frost. Trifolium repens (white clover) in bloom.
" 16—Berberis vulgaris (barberry) in bloom.
" 17—Robinia, *pseudo*-acacia, (locust tree) in bloom.
" 18—Trifolium pratense (red clover) in bloom.
" 19—Rosa, red and yellow, in bloom.
" 22—Very cool yesterday. Frost this morning.
" 23—Philadelphus coronarius (mock orange) in bloom.
" 24—Very warm. Cynoglossum officinale (houndtongue) in bloom.
" 25—Garden strawberries ripe; cherries ripe.
" 26—Showers. Triticum hyberum (winter wheat) begins to bloom.

April monthly mean temperature, 52.62. Ditto, 1843, 44.79.

Rain-guage, .72 in. Ditto, in 1843, 2.22.

## Mr. Colman's Agricultural and Horticultural Tour and Survey in Europe.

THE first number is now ready for delivery to subscribers who reside west of Seneca Lake, including the Canadas. Those who have paid according to the subscription in advance, will have them sent to them. Those who have not paid will please apply to me.—By payment of two dollars, four numbers will be sent. Subscriptions received as usual. JAMES H. WATTS,

*Agent for Mr. Colman, at E. Watts' Hard-ware Store, 3 Exchange-st.*

*Rochester, May* 27, 1844.

THE celebrated Horse, *Gallant Coacher* will stand for mares this season, at the stable of M. D. Wilcox, in Batavia, on Thursday, Friday and Saturday of each week. In Stafford, on Monday, Tuesday and Wednesday of each week. This horse needs only to be seen to be patronized. He is six years old, 16 hands 3 inches high, blood bay, and for symmetry and muscular power, is not surpassed. He has been with his dam often exhibited at Agricultural shows and fairs, and has never left the ground without carrying with him a premium and warmest commendations. Terms are liberal.

ALEXANDER BALDRIDGE.

*Batavia. April* 26, 1844. 1m

## MASSACHUSETTS PLOW.

MANUFACTURED AND FOR SALE

**BY B. F. SMITH & Co.,**

AT THE

**ROCHESTER SEED STORE & AGRICULTURAL WAREHOUSE,**

*No. 4 Front-st., (near Buffalo-st.) sign of the Plow.*

### Latest Trial of Plows in Massachusetts.

At Andover, Mass., the Agricultural Society held, in October last, the most lengthy, thorough, and scientific trial of Plows ever held in this country.

The following extracts are from the long, able, and minute reports of the Judging Committee on Plows, (published in pamphlet form,) where they say:

"That in consequence of the numerous claims, and of the interest manifested by the different manufacturers, they found it impossible to complete their examination, in a manner satisfactory to themselves, on the day of exhibition. It was therefore postponed until the Tuesday following, when the committee, with three others associated with them by order of the trustees, were occupied (on the second day) five hours in the trial of plows. There were ten plows presented, six of them made by Prouty & Co., four by Ruggles & Co."

"On comparison of these, on condition for which the premium was offered—viz., for the best plow, character of the work done by it, easiness of draft, workmanship, and cost of implement—being taken into consideration, your committee unanimously agreed to recommend, that the premium be awarded to the plow made by Ruggles and Co."

The following table, taken from those of the committee, shows the amount and comparative power applied, depth and width of furrow, and the number of square inches of earth turned by plows nearly corresponding in size.

The comparison shows an average saving of about NINETEEN per cent, or nearly one-fifth of the labor, in the use of the Massachusetts Plows, which in using would soon pay for several—to say nothing of the superior work, acknowledged superiority of easing, and workmanship:

*A dynamometer, graduated from* 1 *to* 9, *was used to indicate the power applied in the work.*

| Description of Plow. | No. of lbs. of power appli'd | Depth of f'rrow | Width of furr'w | Earth t'rn'd | Earth by 100 lbs. of pow'r | Difference of draft in favor of Ruggles & Co.'s Plows. |
|---|---|---|---|---|---|---|
| Ruggles & Co., C. | 500 | 6¼ | 12 | 75 | 15 | 13¼ per ct. |
| Prouty & Co., A. | 500 | 5½ | 12 | 66 | 13¼ | |
| Ruggles & Co., C. | 500 | 7¼ | 13 | 94 | 18 4-5 | 9¼ " " |
| Prouty & Co., A. | 550 | 7¼ | 13 | 94 | 17 | |
| Ruggles&Co, Eagle | 412½ | 6 | 11 | 66 | 16 | 24 " " |
| Prouty & Co., C. | 450 | 5½ | 10 | 58 | 13 | |
| Ruggles & Co., C. | 412½ | 6 | 12 | 72 | 17½ | 28½ " " |
| Prouty & Co., C. | 450 | 5½ | 10 | 58 | 13 | |

At the several Plowing Matches of the Agricultural Society, in the justly celebrated county of Worcester, since 1836, ALL the premiums (54 in number,) for the best work in the field, have been awarded to competitors using Ruggles, Nourse, and Mason's Plows.

The American Institute, at their Fair held at New York, and the Massachusetts Charitable Association, held at Boston, each awarded to Ruggles, Nourse, and Mason, MEDALS for the best and most perfect Plows; and at many Plowing Matches, Fairs, and Exhibitions in Massachusetts, and other States, diplomas and the highest premiums have been awarded for their Plows, by committees, and the universal approbation of their performances by the congregated practical performances.

NEW CUSTOM MILL—Rochester.—We have now in operation in the Stone Mills known as the "*Shawmut Mills*," on Brown's Race, Three Run of Burr Stones, with all the necessary improved machinery for Smutting, Scouring and Bolting; forming one of the most complete Custom Mills in this country, and we are prepared to grind all kinds of Grain whenever the same shall be offered.

We are fully aware of the fact, that there is a very strong prejudice with the farmers against having their Grists ground in this city from the fear that their work cannot be done properly, and at all times, either from inability or from a wish of the miller to grind on his own account.

Our Water Power is a never failing one, and our water wheels are so well protected from the cold, that we are enabled to grind at all times, and Farmers can depend upon our Mill being strictly devoted to Custom Work, and that we pledge ourselves not to refuse Grists at any time for the purpose of grinding on our own account. They can also depend upon having their Grists ground on the same day they are left. Buckwheat and Barley ground every day—for the scouring of which, we have a first rate machine.

N. B. Corn in the Ear, ground at all times—which kind of provender, is said by them who have made use of it, to be the most profitable of any now in use.

☞ Cash will at all times be paid for most kinds of Grain.

Flour, Corn Meal and Mill Feed, constantly for sale at the lowest market price. SMITH & ALLCOTT.

Rochester, March, 1844, 1yr. Shawmut Mills.

## STRAW-CUTTERS,

FOR SALE at the Rochester Seed Store, No. 4 Front-street, Rochester N. Y.:

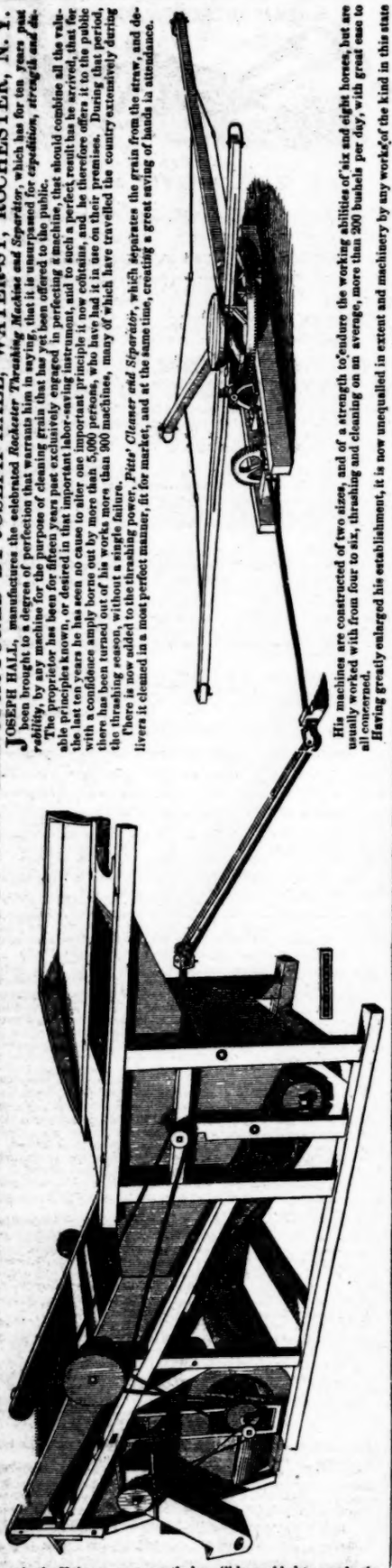
WEBB'S PATENT STRAW-CUTTER.—This presents much that is new, and is in some respects superior to most others. It operates by means of a crank and fly-wheel, combined with a set of levers. It has only one knife, which is straight and easily sharpened. It works expeditiously, and costs less than most other machines of its size and efficiency.

RICHARDSON'S PATENT, 1st PREMIUM.—This is a well-made and ingenious machine, and cuts with great rapidity. It has two straight knives, placed on a fly-wheel, on the English plan, but the mode of gearing and feeding the machine is new. It was awarded the first premium at the State Fair. It was made by Robert Perkins, at Rochester, and for sale at the Seed Store,—price, $20.

THE LEVER STRAW-CUTTER—a small and easy working machine. Price, $4.

THE BOSTON LEVER STRAW-CUTTER—an exceeding useful article. Price, $7. Feb. 1.

GRAIN SEPARATOR, THRASHING MACHINE AND HORSE POWER—MANUFACTURED BY JOSEPH HALL, WATER-ST, ROCHESTER, N. Y.



JOSEPH HALL, manufactures the celebrated *Rochester Thrashing Machines and Separator*, which has for ten years past been brought to a degree of perfection that warrants him in saying, that it is unsurpassed for *expedition, strength and durability*, by any machine for the purpose of cleaning grain that has yet been offered to the public.

The proprietor has been for fifteen years past exclusively engaged in perfecting a machine, that should combine all the valuable principles known, or desired in that important labor-saving instrument, and to such a perfect result has he arrived, that for the last ten years he has seen no cause to alter one important principle it now contains, and he therefore offers it to the public with a confidence amply borne out by more than 5,000 persons, who have had it in use on their premises. During that period, there has been turned out of his works more than 900 machines, many of which have travelled the country extensively during the thrashing season, without a single failure.

There is now added to the thrashing power, *Pitts' Cleaner and Separator*, which separates the grain from the straw, and delivers it cleaned in a most perfect manner, fit for market, and at the same time, creating a great saving of hands in attendance.

His machines are constructed of two sizes, and of a strength to endure the working abilities of six and eight horses, but are usually worked with from four to six, thrashing and cleaning on an average, more than 200 bushels per day, with great ease to all concerned.

Having greatly enlarged his establishment, it is now unequalled in extent and machinery by any work of the kind in this state or even in the Union; consequently he will be enabled to supply the great wheat-growing region of Western N. York, the South Western States, and the Canadas with machines, which will be guarranteed to meet the expectations of all purchasers.

Of over two hundred testimonials, the following only are subjoined as coming from eminent scientific and practical men, who have long been familiar with this subject.

Machines will be forwarded to satisfactory orders to all parts of the country in such manner as to ensure their safety, by application to the proprietor, at *Rochester, Monroe County, N. Y.*

TESTIMONIALS IN FAVOR OF HALL'S THRASHERS, &c.

MR. HALL,—SIR—In compliance with your request, that I would state my convictions as to the "value of your Thrashing Machine and PITTS' *Cleaner* and *Separator* combined," I feel great freedom in making the following statement:

From my knowledge of your mechanical ability to contrive, and your excellent machinery to execute, together with your long experience in the business, as well as from my actual knowledge of the perfect success of its operations for ten years past, I know of no machine for doing a large business, that has given such universal satisfaction to every person who has used them.

Having for near 20 years had the control of a Foundry and the getting up machinery of various kinds, and professing to understand the principles of mechanical science philosophically, and having had the honor of being placed on the state committee on "Agricultural Implements" for three years past, I trust I may be tolerated in giving my views pretty confidently on the qualities of this machine.

I consider its great points of value to consist, in the first place, in its *simplicity* and *the perfection and finish of all its parts;* secondly, in so balancing the *strength required to equal the power applied*, as to secure it against breaking or getting out of order.

The addition of the *Separator* to the thrashing process, is an important improvement, greatly facilitating the operation of thrashing and cleaning the grain, and a great saving of expense in attending the machine.

At the great fair at Rochester, in 1843 it defied all competition, and bore off the *first premium* to the entire satisfaction of all who saw it perform its duties.

I have no hesitation in stating, that persons wishing a machine of the working power of from 4 to 8 horses, cannot be disappointed in the performance of HALL'S *Thrashing Machine and* PITTS' *Separator*.

L. B. LANGWORTHY.

Ridge Farm, Greece, May, 1844.

NORTH CHILI, May 13, 1844.

Being requested to give my opinion in regard to *Pitts' Machine* for thrashing and cleaning grain, you have it as follows:

This is to certify, that I have followed the business of thrashing grain for the last ten years. I have used many different kinds of machines; and many machines have been constructed for the purpose of thrashing and cleaning at one operation, but all have comparatively failed until Mr. *Pitts* introduced his invention. For the last three years I have used the Pitts' machine manufactured by *Joseph Hall*, at Rochester. I have usually kept 4 or five machines running through the thrashing season, giving perfect satisfaction both to my employers and myself. I have thrashed and cleaned with the above mentioned machine 80 bushels of wheat in one hour, 400 in a day, 1800 in a week, and 7000 in one month or 26 days, including moving, setting up, &c. My machines have been used with success by persons wholly unacquainted with this kind of machine. No one failing to average 200 bushels per day and often thrashing from 300 to 400. I consider this machine preferable to any other now in use, for many reasons. They do a great amount of work with few hands, are simple, strong, and durable, not liable to get out of order; many of them to my knowledge thrashing from 15 to 20,000 bushels without requiring repair.

H. D. JAMISON.

This is to certify, that I thrashed with a machine last season owned by H. D. Jamison, with Pitts' Patent Separator attached: and although I was wholly unacquainted with this kind or machine, I gave universal satisfaction to all concerned, often thrashing between 300 and 400 bushels per day.

E. M. DE FOREST.

*Bristol Center, March* 19, 1844.

MR. JOSEPH HALL: *Sir*—Previous to the year 1840, I had employed several different kinds of Thrashing Machines, and had met with so much delay, and vexation, in consequence of the breaking and derangement of the machinery, that I had nearly determined to resume the old method of thrashing my grain by hand. But having been solicited to employ one of your smallest sized machines, I did so, and was highly gratified at the result, which was as follows:—First day, 478 bushels of wheat; second day, 565 bushels of barley; third day, 400 bushels of wheat; moving and setting the machine each day. I have since employed the same machine, with one of Pitts' Grain Separators attached to it, and am fully satisfied, that the combined machine, is the most perfect apparatus for thrashing and cleaning grain, that has yet been invented: and can safely say, that when skilfully managed, it cannot fail of giving universal satisfaction. I am Sir, your obedient servant,

GEORGE GOODING.

## MADDER SEED.

THE very high prices which the Madder Dyes of France and Holland have attained, are sufficient to excite the attention of our intelligent agriculturists. It is only necessary to take into consideration the immense quantity of Madder consumed in the various manufactories of the United States, to be convinced that the cultivation of this plant would be attended with great advantages, and that it may be undertaken with certainty of profit.

The Madder root can be cultivated in almost every climate. The sands of Silesia, the marshes of Zealand, the arid soils of the south of France and Persia produce it, and of almost equally good quality. It is well known that atmospheric influences make but little impression upon a root, the valuable part of which grows beneath the surface of the soil; and what a powerful guarantee does this circumstance afford to the cultivator of the Madder. It protects him from all varieties of temperature, which so frequently destroys crops of a different nature. For those who cultivate this root, a crop is assured as soon as the seed which they have put into the ground begins to germinate.

A special report upon the cultivation of this plant was laid before the Academy of Sciences at Paris, and a prize awarded to the author. It was written by M. de Gasparin, Peer of France, Member of the Institute, and formerly Minister of the Interior. An extract made from it, which is itself sufficient to instruct all who wish to direct their attention to this new branch of cultivation in this country, will be furnished on application. French Madder Seed, obtained from last year's crops, may be had of the subscribers, who have received a consignment of a considerable quantity.

J. M. THORBURN & CO. 15 John-st., N.Y.

## PITTS' SEPARATOR.

I WOULD respectfully give notice that I am now manufacturing and shall have for sale, in season for the coming harvest, a few of "Pitts' Machines for Thrashing and Cleaning Grain." These who wish to purchase or examine my machines, will find me in "Richardson's Building," west end of the bridge, Buffalo-street, Rochester, N. Y. JOHN A. PITTS.

May 27, 1844. 2m

## PREMIUM HAY-FORKS, HOES, AXES, Agricultural and Mechanical Tools generally,

Manufactured and sold, wholesale and retail, by the Subscribers, at their well-known stand, No. 3, Buffalo-street, Rochester.

SPECIMENS of their Forks, Axes, &c., were exhibited at the State Agricultural Fair, last fall, and the Premium of the Society was awarded for their superior finish and quality. The forks are warranted to stand for one year from the time of sale. They also obtained the highest premium (a silver medal) at the Mechanics' Fair, for various specimens of MECHANICS' TOOLS.

BARTON & BELDEN.
(Late D. R. BARTON.)

THE BUCK-EYE CHEESE PRESS.—The above is a representation of Messrs. Collins and Stone's self-acting cheese press; an ingenious but simple machine. Possessing great power, and, being small and portable, it is very convenient and easily worked.—The weight of the cheese is the only power required for its pressure. These presses have now been fully tested, and are found to give perfect satisfaction. Indeed, they only need to be known to be generally adopted. They are made at Richardson's machine-shop, in this city, and sold there, and at the Seed Store. Price $5.

June 1. B. F. SMITH & Co.

## TO FARMERS.

AGRICULTURAL IMPLEMENT WAREHOUSE.—We wish to inform our friends and readers in the country that Messrs. B. F. SMITH & Co., the proprietors of the Rochester Seed Store, have fitted up a large room over their Store on Front Street as a depository for improved Agricultural and Horticultural Implements, and they invite farmers and others when visiting this city to call and examine the assortment of articles on hand. Many of the implements will be found entirely new in their construction, and others greatly superior to those in common use; calculated to facilitate the labors of the husbandman and render his occupation more pleasant and profitable.

Such an establishment has long been wanted in this region, and we hail it as an important anxiliary for promoting the improvement of Agriculture in Western New York. Let the friends of the cause give it their encouragement.—*Farmer for April.*

June 1. B. F. SMITH & Co.

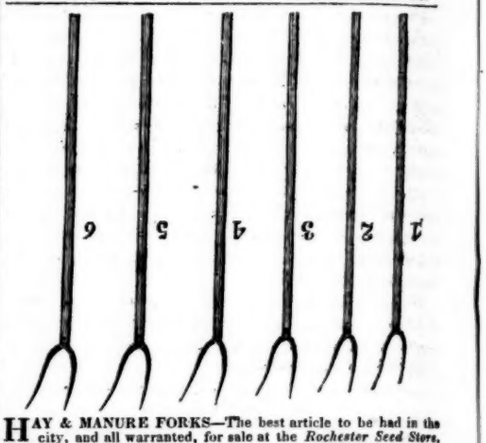
## 400,000 POUNDS WOOL WANTED.

THE subscriber will pay the highest market price, in cash, for 400,000 pounds of wool, at the New England Store, 32 Buffalo Street. JOSIAH SNOW.

*Rochester, June*, 1844. 2m

GRASS *Sickles, Border Shears, Pruning Knives, Transplanting Trowels, Budding Knives, Garden Syringes, &c. &c.* for sale at the Rochester Seed Store, No. 4, Front-st. B. F. SMITH & Co.

BUSH *Sythes*, a superior article, for sale at the *Rochester Seed Store*, by B. F. SMIMH & CO.




HAY & MANURE FORKS—The best article to be had in the city, and all warranted, for sale at the *Rochester Seed Store*, No. 4, Front-street, by B. F. SMITH & CO.

SHEEP SHEARS and GRAIN SICKLES for sale at the *Rochester Seed Store*, by B. F. SMITH & CO.

CATERPILLAR BRUSHES—an excellent article for cleaning trees, price 3s., for sale at the *Rochester Seed Store*, No. 4, Front-street, by B. F. SMITH & CO.

REAL QUINEBAUG SYTHE STONES.—60 boxes of these celebrated Sythe Stones, from the Robbin's Ledge, manufactured by J. L. Stafford & Co., Cummington, Mass., received and for sale by the box, dozen, or single, at the *Rochester Seed Store*, No. 4, Front-street, by B. F. SMITH & CO.

HORTICULTURAL SYTHES, for mowing among Shrubbery and in Gardens, just received at the Rochester Seed Store, No. 4, Front-street, by B. F. SMITH & CO.

BUCKWHEAT, for SEED, for sale at the Rochester Seed Store, No. 4, Front-street, Rochester, by B. F. SMITH & CO.

CANARY BIRDS, BIRD CAGES, and BIRD SEED, always on hand, at the Rochaster Seed Store, No. 4 Front-streeet, near Buffalo-street. Feb. 1.

SILK WORM EGGS.—A supply just received and for sale at the Rochester Seed Store, No. 4, Front-street. B. F. SMITH & CO.


NEW-YORK, *May* 27.—Flour is dull; Genesee $4,69 to 4 75. Michigan and Ohio 4 62 to 4 69. Wheat, very little comes in; a lot of Illinois held at 110 cts. Corn 48 to 50 cts. Rye 67 cts. Oats 32 cts. PORK, mess 8 81: prime, 6 25. ASHES, pots 4 31; pearls 4 75.

ROCHESTER, *June* 1.—A few small lots of WOOL have appeared in market within 3 or 4 days past, and buyers are preparing for spirited competition. Prices are not yet settled, but the season opens at 5 to 7 cts. a pound higher than last year. Common is now 27 to 31 cts.; fine 35 to 40 cts.

Very little has been done the past month in grain or other produce, except in a small way. Owing to the abundance of pasture butter is very plenty and cheap. Those who can do it *well* had better pack it for eastern markets.

## ROCHESTER PRODUCE MARKET.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Wheat, | $ | 87½ | a 91 | Hay, ton, | $5 | 00 | 6 | 00 | |
| Corn, | | 48 | a 50 | Wood, cord, | 2 | 00 | 2 | 50 | |
| Barley, | | 40 | 42 | Salt, bbl., | | | 1 | 25 | |
| Oats, | | 23 | 25 | Hams, lb., | | | | 6 | |
| Flour, (ret.) | | | 4 25 | Pork, bbl. | | | 10 | 00 | |
| Beans, | 1 | 00 | 1 50 | " cwt. | 3 | 75 | 4 | 00 | |
| Apples, | | 38 | 50 | Beef, " | 2 | 50 | 3 | 00 | |
| Potatoes, | | 31 | 37 | Lard, lb., | | | 5 | 6 | |
| Cloverseed, | 6 | 00 | 6 | 50 | Butter, | | | 7 | 9 |
| Timothy, | 1 | 75 | 2 | 00 | Cheese, cwt. | 4 | 00 | 5 | 00 |

| | | | |
|---|---|---|---|
| Eggs, doz. | | 9 | 10 |
| Tallow, lb. | | | 7 |
| Beeswax, | | 25 | |
| Wool, | | 31 | 38 |
| Sheep Skins, | | | 125 |
| Green H'ds, lb. | 3 | | 4 |
| Dry Hides, | | 5 | 6 |
| Calf skins, gr'n. | 5 | | 6 |
| do. dry, | | 12½ | |

JUNE 1.